

[0039]

The exfoliation means 7 is provided with a transfer support member 52 which is sent to and freely rewound around the rewinding shaft 51 and on one side of which an adhesive layer is formed, a pressure roller 53 which is wound around with the transfer support member 52, presses the adhesive layer of the transfer support member 52 against metal foil which has been electro-deposited on the outer surface of the rotation drum 1 via the transfer support member 52 and adheres the adhesive layer and an exfoliation roller 54 which is wound around with the transfer support member 52 to which the metal foil is adhered, sends out the transfer support member 52 in an extra radial direction of the rotation drum 1 to thereby exfoliate the metal foil from the rotation drum 1.

[0040]

The outer surfaces of the pressure roller 53 and exfoliation roller 54 are made of a flexible, elastic member with a relatively high frictional coefficient such as urethane rubber, silicon rubber, other synthetic rubber or expanded rubber made of these kinds of rubber, and the pressure roller 53 and exfoliation roller 54 contact the outer surface of the rotation drum 1 under pressure via the transfer support member 52 and driven to rotate in synchronization with a circumferential speed of the rotation drum 1. Note that the exfoliation roller 54 corresponds to the moving means of the present invention. It is also possible to omit the pressure roller 53 and cause the exfoliation roller 54 alone to perform adherence of the adhesive layer to the metal foil and exfoliation of the metal foil.

[0041]

The transfer support member 52 sent out in the extra radial direction by the exfoliation roller 54 is collected together with the metal foil adhered thereto by the collecting means 8. The example in the figure uses a winding device provided with the winding shaft 55 for rewinding the transfer support member 52 as the collecting means 8, but the transfer support member 52 may also be simply collected in a collection box.

[0042]

As the transfer support member 52, a resin tape, paper tape, cloth tape, metal tape or the like is used. The material for the transfer support member 52 is selected according to the material and thickness of the metal foil as appropriate, but it is especially preferable to use a stronger material as the thickness of the metal foil decreases and a material that easily expands and contracts is not preferable because it easily causes damage to the metal foil. Note that by using an exfoliative tape with a mold release agent applied to the body of the support member for the transfer support member 52 and forming an adhesive layer on the mold release layer, it is possible to easily exfoliate the metal foil to which the adhesive layer is adhered from the transfer support member 52. Furthermore, to obtain a metal foil with no adhesive layer adhered thereto, it is possible to use a water-soluble transfer support member and adhesive such as a cellulose-based film or adhesive, and melt and remove them with hot water.

[0046]

The above described embodiment has formed a plated area of the outer surface of the rotation drum 1 to a flat mirror-finished surface,

but as shown in Figure 3, by applying embossing of frosted parts or spherical recessed parts or the like to the plated area, it is possible to manufacture the metal foil having various patterns (checkers in Example (A)) and functions (diffused reflection in Example (B)). Furthermore, as shown in Figure 4, by forming a non-plated part (hexagonal part in the example in the figure) 57 buried so as to partially expose an insulator on the surface thereof to prevent the electro-deposited surface of the plated film from being divided at right angles with respect to the circumferential direction, it is possible to continuously manufacture metal foil penetrated by the part corresponding to the non-plated part 57. Note that the recessed section in which the insulator of the non-plated part 57 is buried can be worked on finely and accurately through high-precision processing such as laser processing and etching.